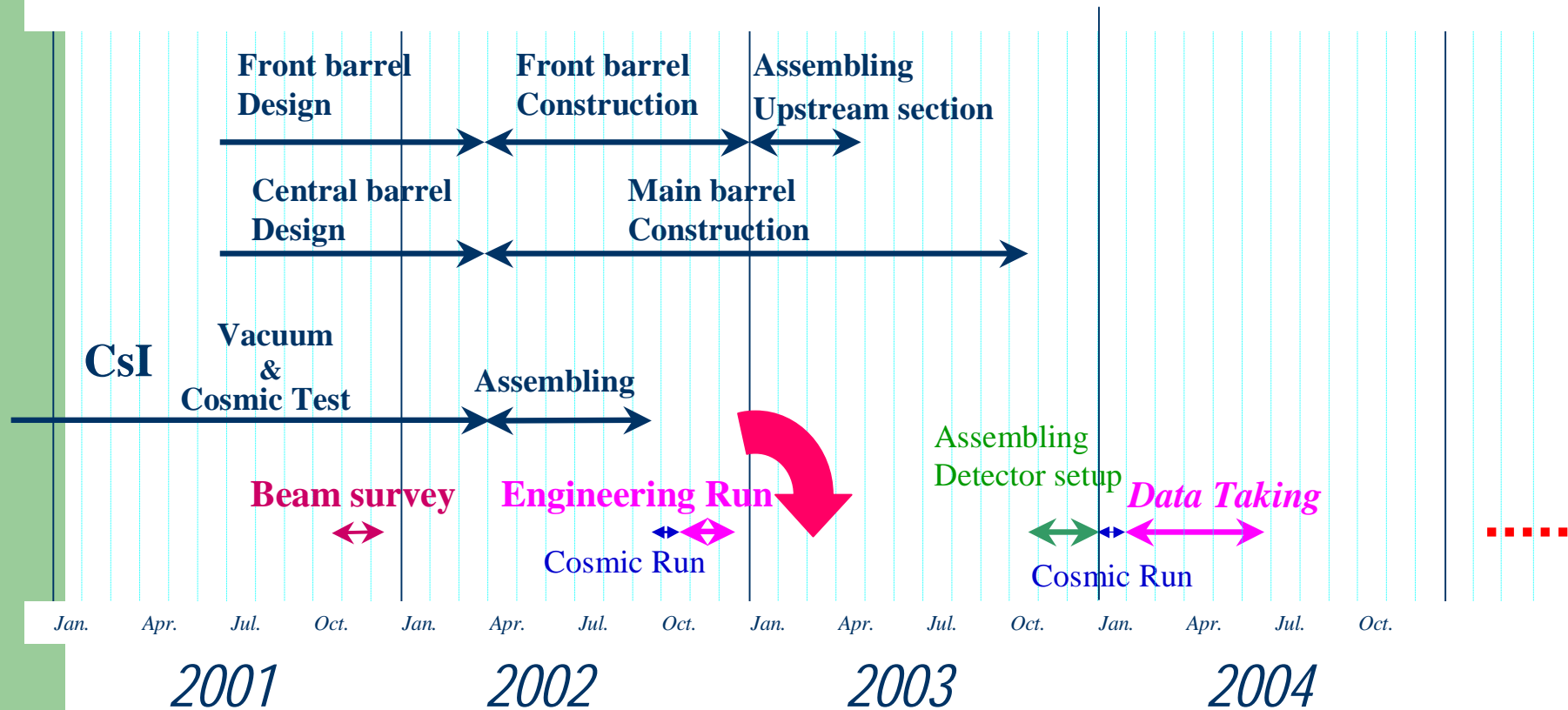


KEK E391a実験のEngineering Run

- Engineering Run 2002 Oct.-Dec.
- Physics Run 2004 Feb.- Jul.

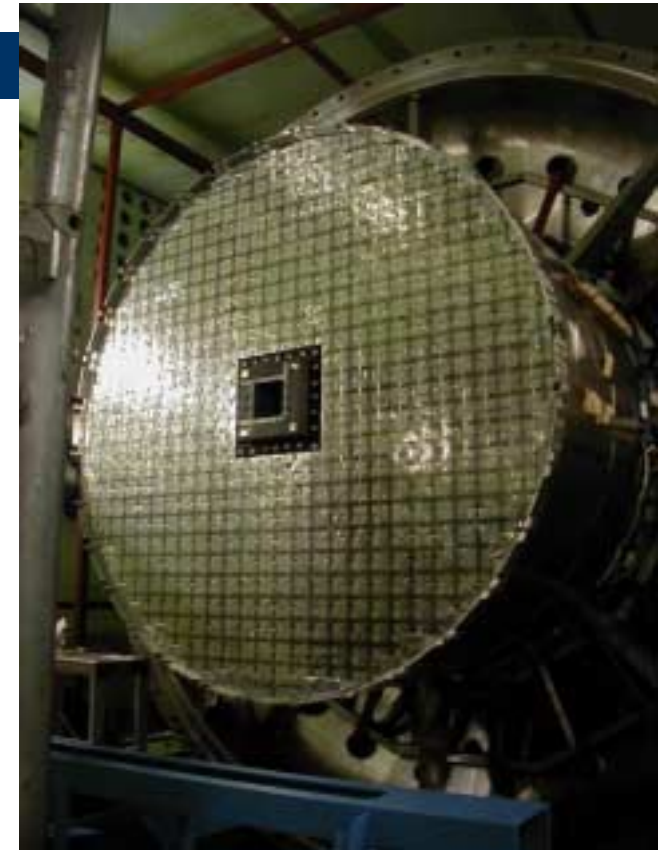
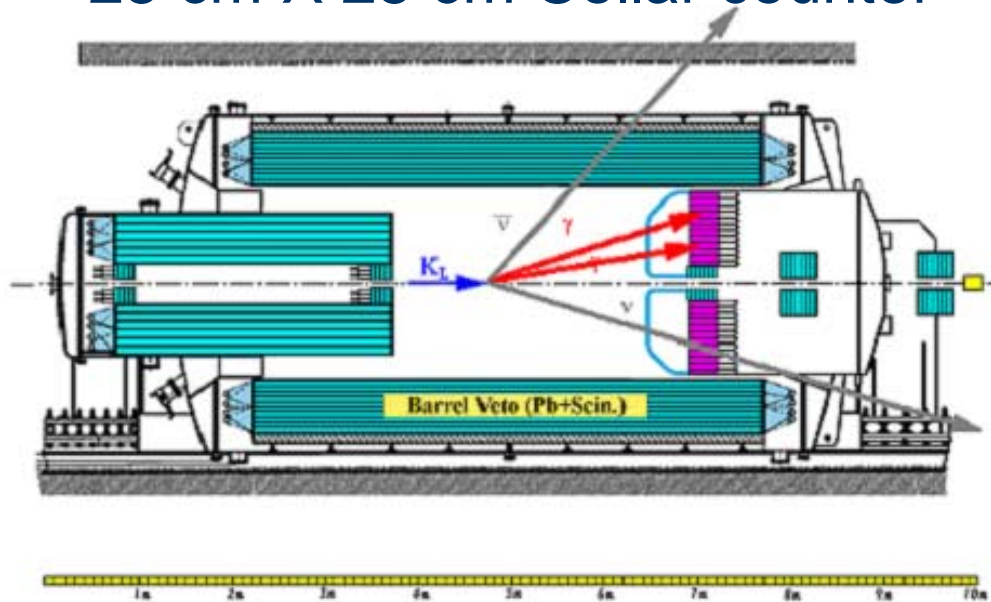
-阪大 菅谷-



2003/3/5、質量起源と超対称性物理、筑波大

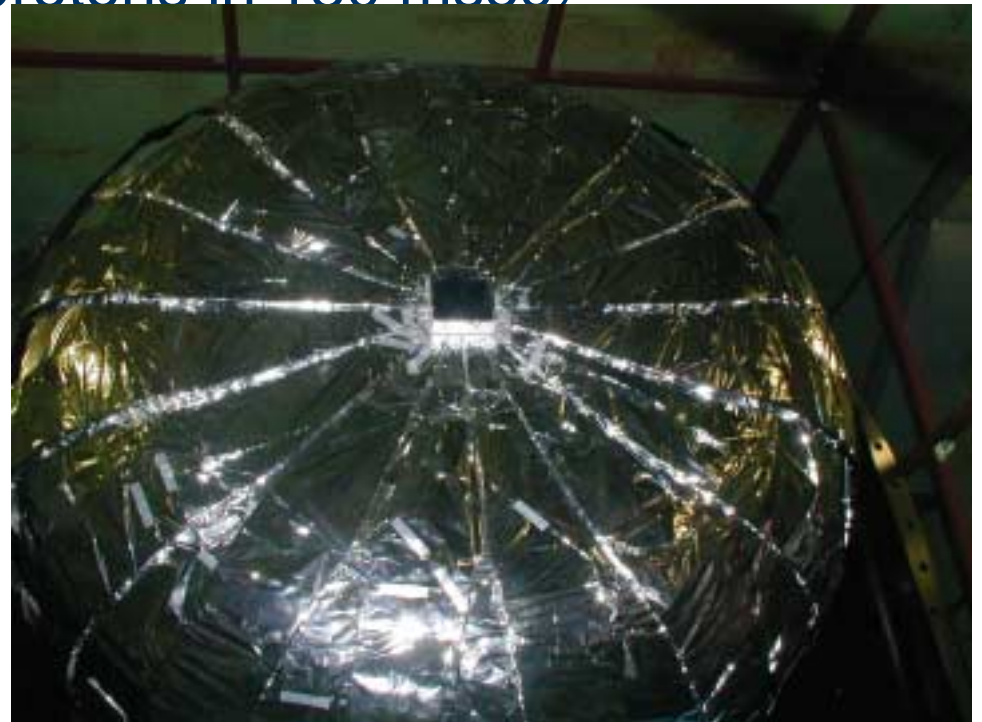
Csl calorimeter

- 7 cm X 7 cm Csl
- 5 cm X 5 cm Csl
- 25 cm X 25 cm Collar counter



Objective of engineering run

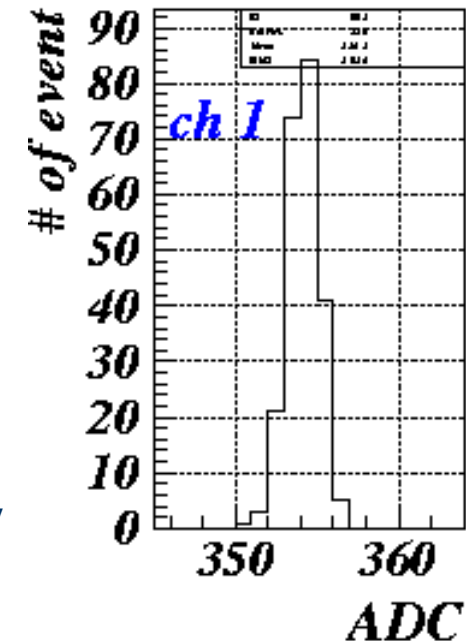
- Overall-check of our detector system
 - including High rate (10^{12} protons in 180 msec) -
 - Electronics and DAQ
 - CsI
 - Veto counters
 - Collar counter
 - Charged veto
- CsI energy calibration
- KL beam information



2003/3/5、質量起源と超対称性物理、筑波大

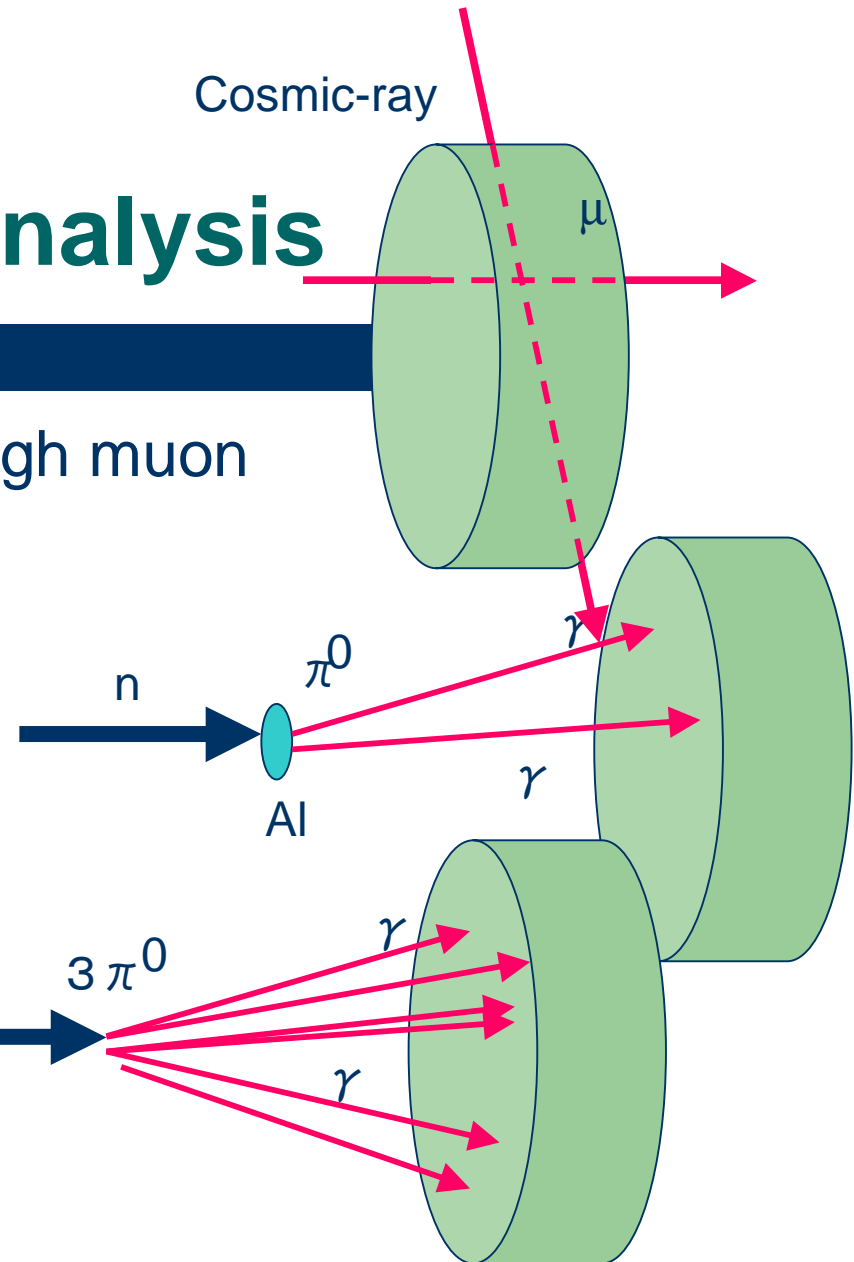
Quick answers

- Data taking 30th Oct.-17th Dec (49 days)
- DAQ: No problem
- High intensity Run
 - No gain drop on Csl
 - 10 % on collar counter (close to beam)
- Electronics
 - No noise associate with PS operation
 - 1 mV threshold for TDC(~1 MeV)
 - ADC pedestal $\sigma \sim 1$ ch = 50 fC $\sim 1/10$ MeV



Data taking and Analysis

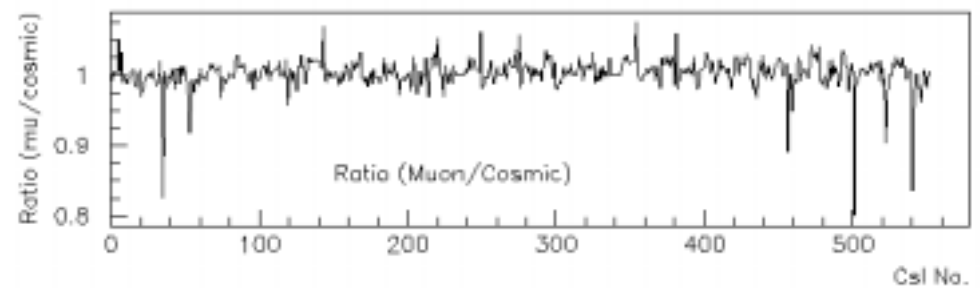
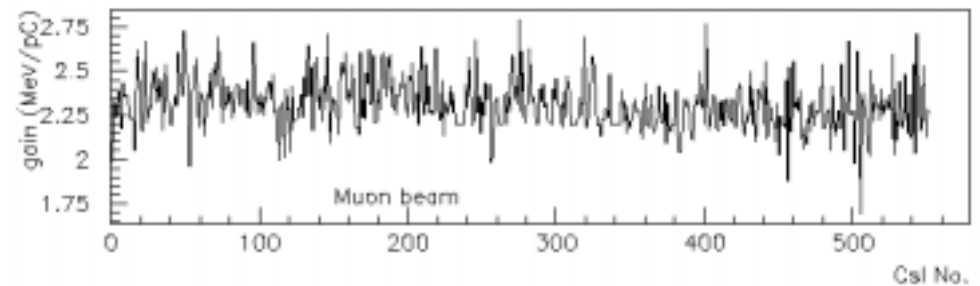
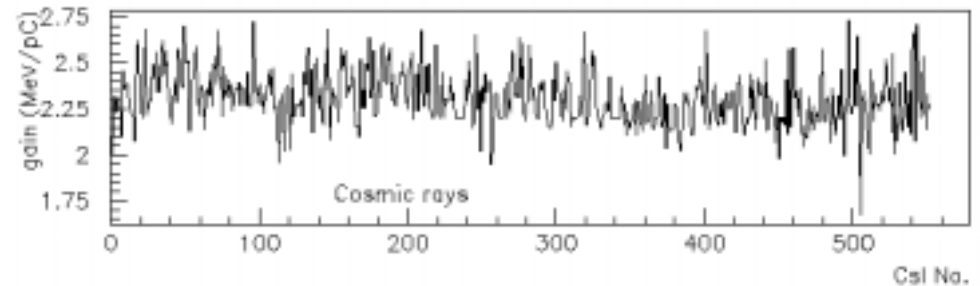
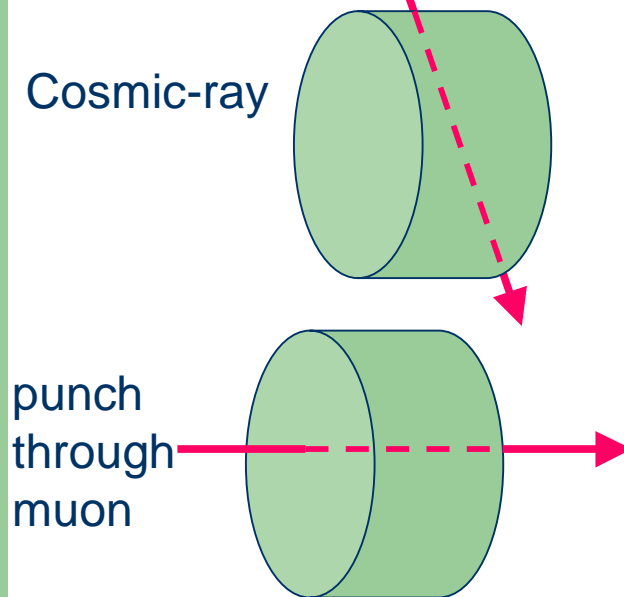
- Cosmic ray & punch through muon
 - HV and gain
 - Timing
 - Stability
- π^0 from target
 - Absolute energy calibration
 - Time zero determination
- K long decay (3π , 2π)
 - Precise gain
 - information of KL beam



Cosmic ray & punch through muon

S.Y lee and Y.Fujioka

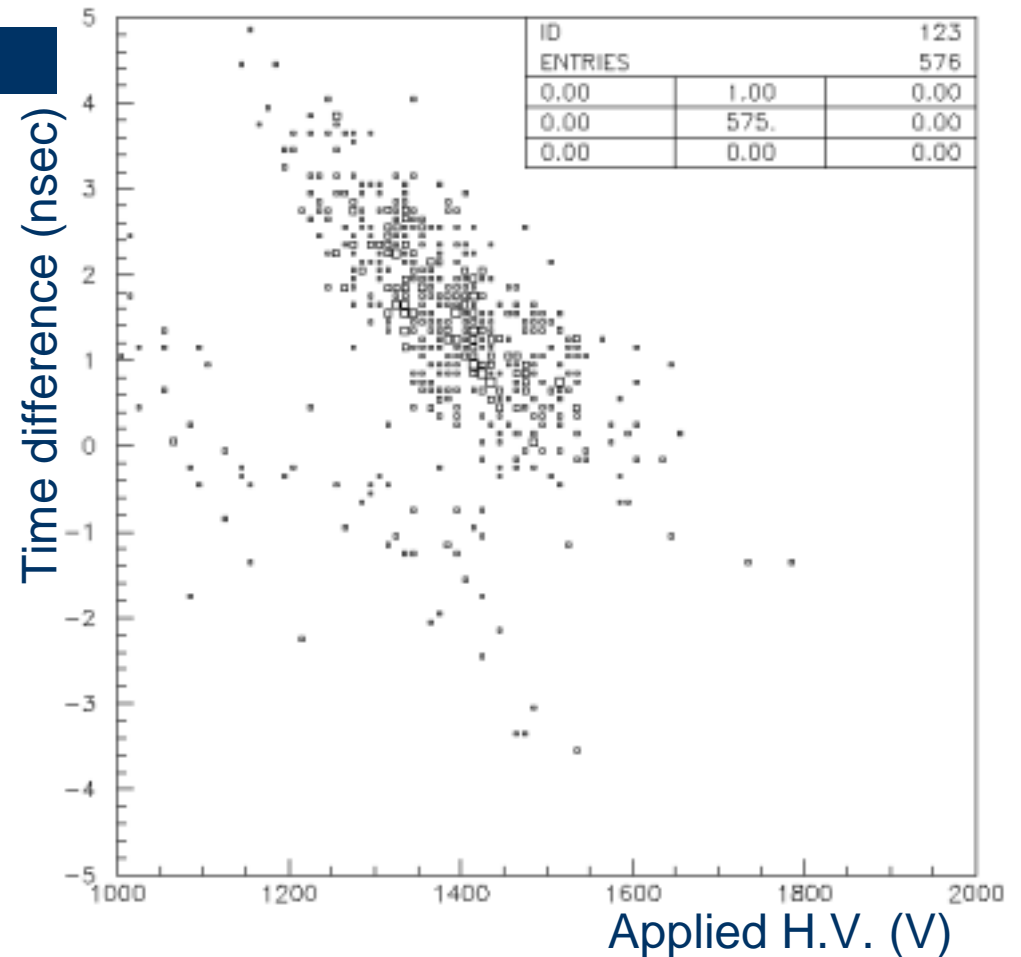
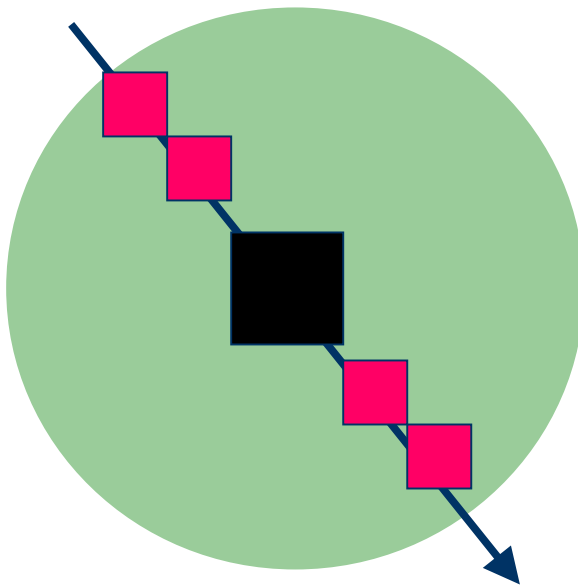
- HV setting
- Gain factor



Timing calibration

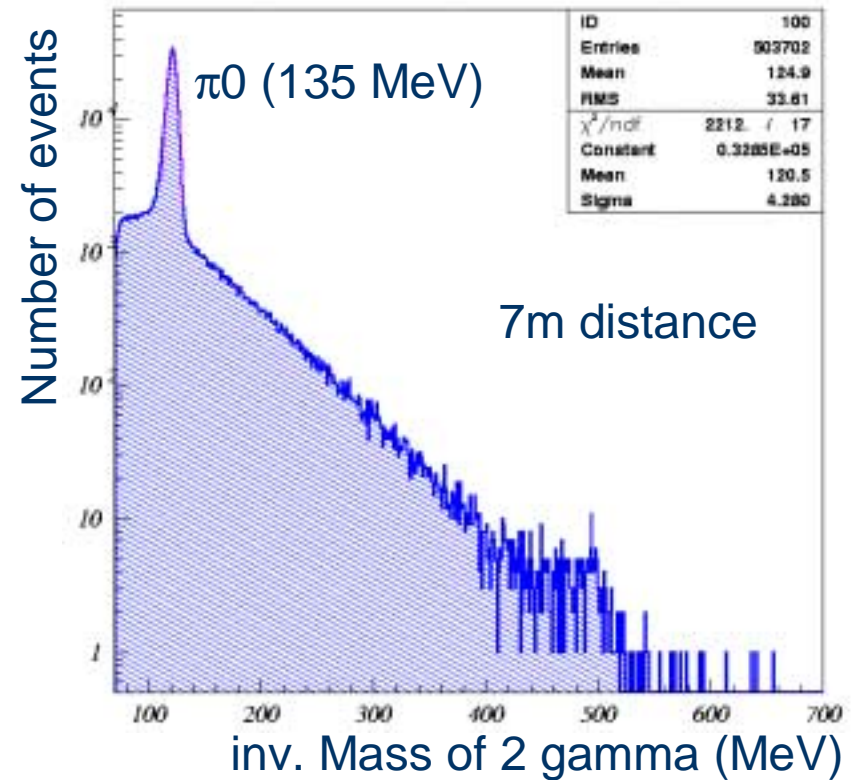
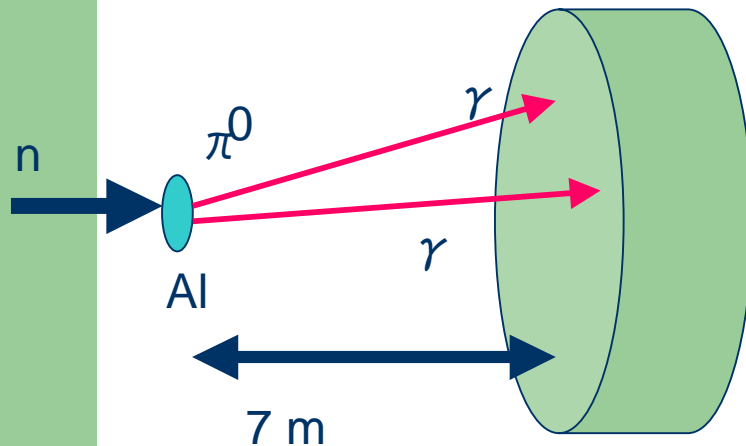
M. Doroshenko

- Cosmic ray



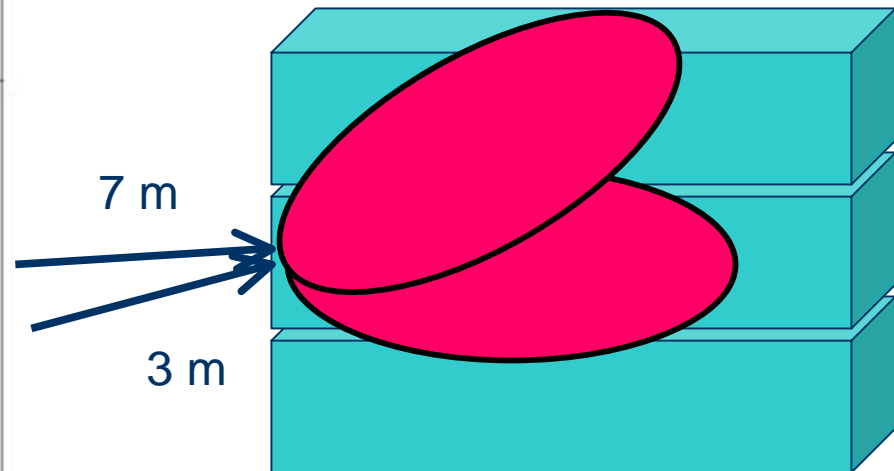
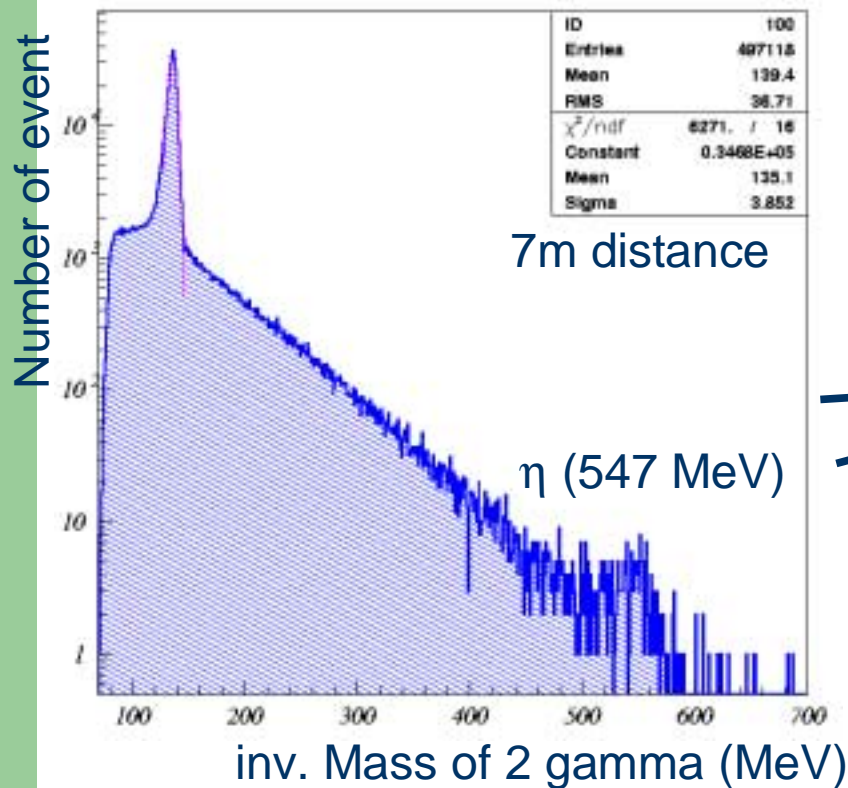
π^0 from target

- Al target 2 cm thick, 7 cm ϕ
- ~1M event for both 7m and 3m



Angle dependence

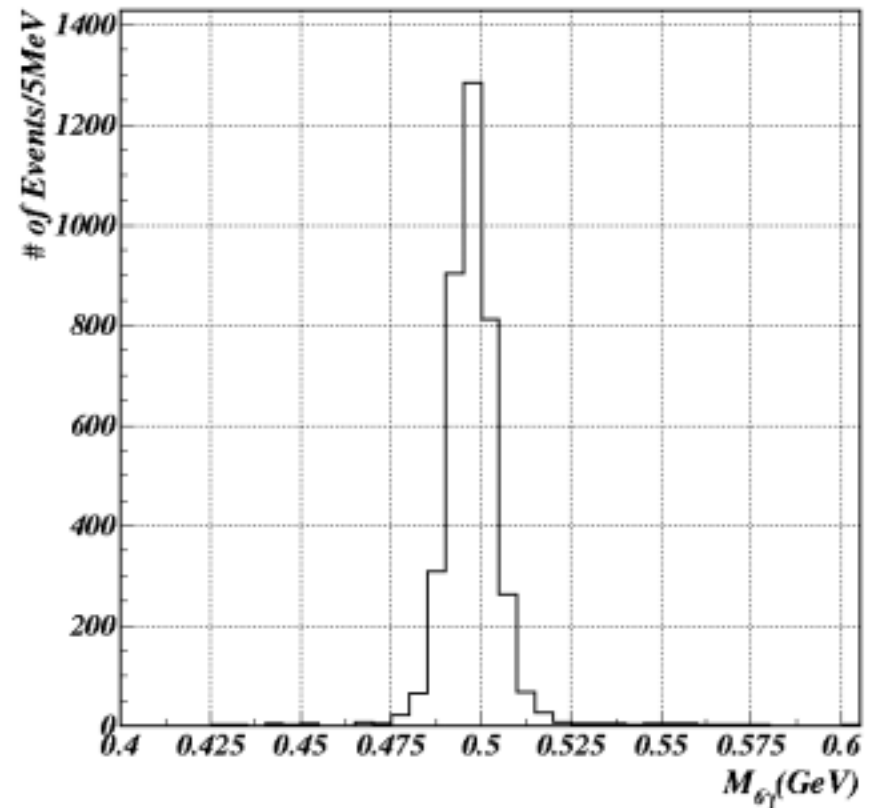
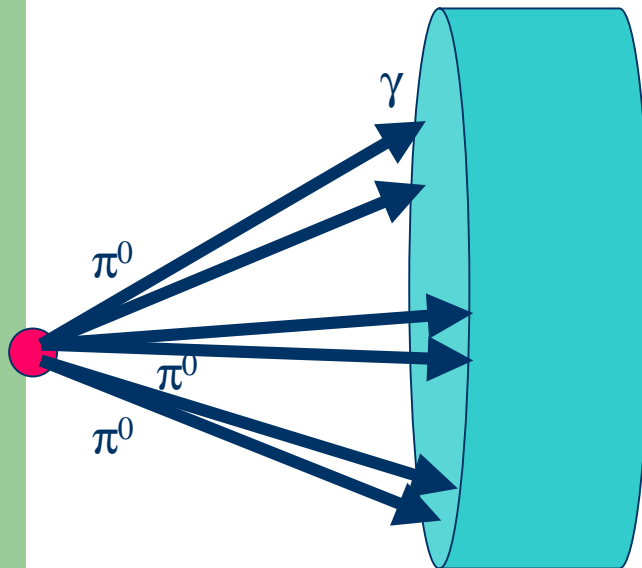
- Position dependence on incident angle of γ



K long decay ($3\pi^0$)

K. Sakashita

- $\sim 1\text{M}$ $K\pi^3$
- Find vertex assuming π^0 mass

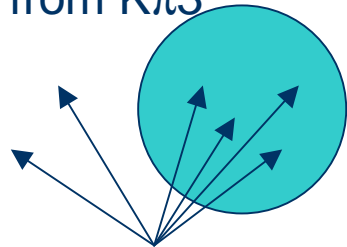


K long decay ($2\pi^0$)

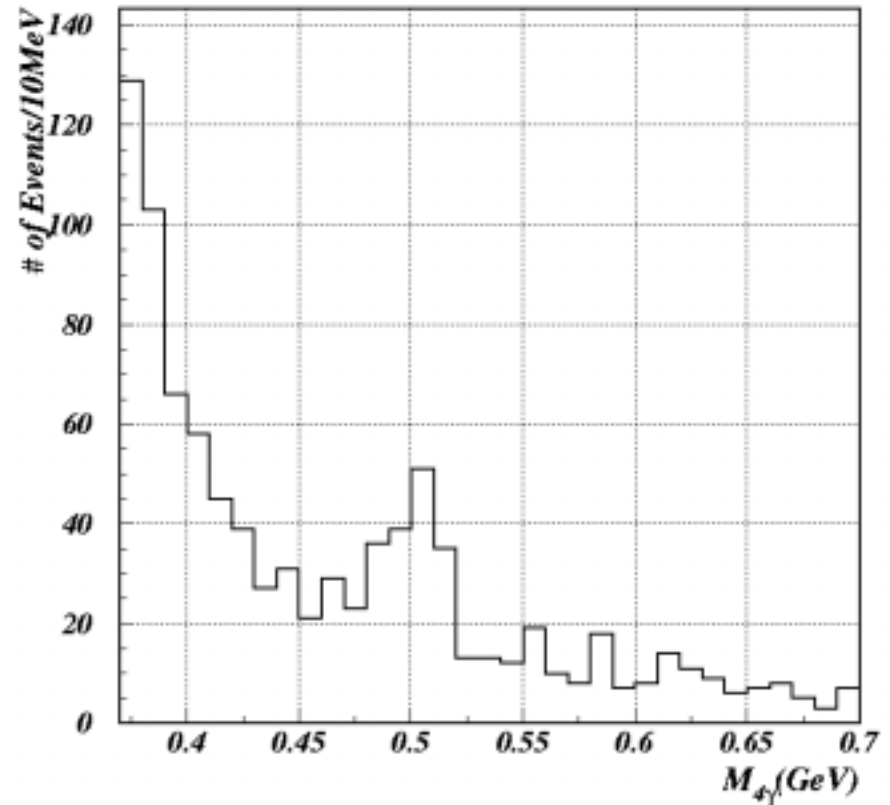
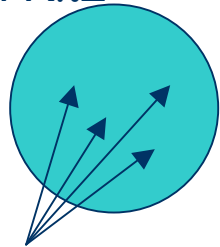
K. Sakashita

- Identify from 4γ from $K\pi^3$ with $p_t=0$ cut

4γ from $K\pi^3$



4γ from $K\pi^2$



Summary

- Engineering Run in last year
 - Successful data taking 1M event for $K\pi^3$ and π^0 prod.
 - DAQ is OK
 - Electronics: problem on A/D card should be fixed during this year
 - No serious problem in high rate
 - Analysis on going
 - Cosmic
 - π^0 from target
 - KL decay in flight
- Preparation to physics run in next year
 - Vacuum chamber
 - Main barrel



2003/3/5、質量起源と超対称性物理、筑波大